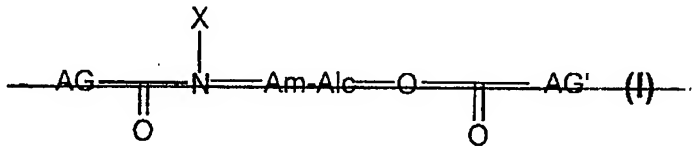
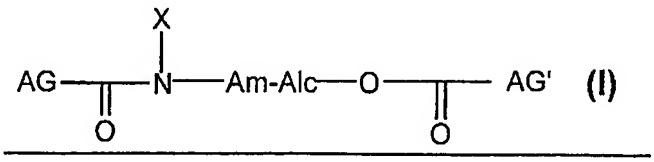
**In the claims**:

**Claim 1** (currently amended) A ~~Process~~ process for the synthesis of a ceramide-type ~~compounds, characterized in that it includes at least an amide formation step, performed by means of the lipase B-type enzyme of *Candida antartica*, and an esterification step, also performed by means of a lipase-type enzyme, and in that the ceramide-type compounds correspond to the general formula (1):~~




~~(I)~~

~~in which the group Am-Alc figures a C2 to C6 carbon chain, preferably saturated, linear or optionally branched, obtained from an amino-alcohol; X figures a hydrogen atom or a C1 to C4 carbon chain, optionally hydroxylated on the 2' and/or following positions of the amino group; and in which each of the groups AG and AG' figures a C4 to C30 carbon chain, saturated or unsaturated, obtained from a fatty acid or a fatty acid ester; the two groups AG and AG' may be identical or different~~ of the formula




(I)

wherein Am-Alc is alkyl of 2 to 6 carbon atoms derived from an amino alcohol, X is hydrogen or alkyl of 1 to 4 carbon atoms optionally hydroxylated in the 2' position

and AG and AG' are individually unsaturated or saturated hydrocarbon of 4 to 30 carbon atoms derived from a fatty acid or fatty acid amide comprising reacting on amino alcohol of the formula

AmAlcOH

with an acid of the formula AG-COOH wherein AG is defined as above in the presence of a lipase B-type enzyme of *Candida antartica* to introduce the

AG-C-N- group and with an AG'-COOH wherein AG' is defined as above in the

presence of *Rhizomucor miehei* lipase to introduce the AG'-C-O group.

**Claim 2** (currently amended) ~~Process according to~~ The process of claim 1, ~~characterized in that~~ wherein the amide formation step is carried out under stoechiometric conditions between ~~a~~ the fatty acid ~~and/or its ester and an~~ or the amino-alcohol at a temperature comprised ~~between~~ of 40 ~~and~~ to 100°C.

**Claim 3** (currently amended) ~~Process according to~~ The process of claim 1, ~~characterized in that~~ wherein the amide formation is carried out without solvent~~,~~ at a ~~minimal~~ temperature of about 65°C.

**Claim 4** (currently amended) ~~Process according to~~ The process of claim 1, ~~characterized in that~~ wherein the amide formation is carried out under a

reduced pressure ~~comprised between~~ of 1 ~~and~~ to 500 mbars ~~and~~ during at least 16 hours.

Cancel **Claim 5**.

**Claim 6** (currently amended) ~~Process according to~~ The process of claim ~~5~~ 1, ~~characterized in that~~ wherein the esterification reaction is carried out with a ratio fatty acid ~~ester/~~ to amino-alcohol ~~comprised between~~ of 1 ~~and~~ to 2.

**Claim 7** (currently amended) ~~Process according to~~ The process of claim ~~5~~ 1, ~~characterized in that~~ wherein the esterification reaction is carried out at a temperature ~~comprised between~~ of 40 ~~and~~ to 90°C.

**Claim 8** (currently amended) ~~Process according to~~ The process of claim ~~5~~ 1, ~~characterized in that~~ wherein the esterification reaction is carried out without solvent~~,~~ at a ~~minimal~~ temperature of about 65°C.

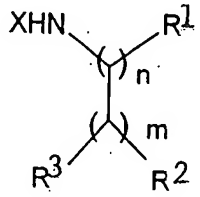
**Claim 9** (currently amended) ~~Process according to~~ The process of claim ~~5~~ 1, ~~characterized in that~~ wherein the esterification reaction is carried out under a reduced pressure ~~comprised between~~ of 1 ~~and~~ to 500 mbars ~~and~~ during at least 18 hours.

**Claim 10** (currently amended) ~~Process according to~~ The process of claim 1, ~~characterized in that~~ wherein the enzymes used in each step are immobilized on an inert support.

**Claim 11** (currently amended) ~~Process according to~~ The process of claim 1, ~~characterized in that~~ wherein the amide formation reaction ~~by means of~~ with the *Candida antartica* lipase B and the esterification reaction ~~by means of the~~ with *Rhizomucor miehei* lipase are both carried out without solvent, optionally simultaneously, at a ~~minimal~~ temperature of about 65°C and under a reduced pressure ~~comprised between~~ of 30 ~~and~~ to 200 mbars.

Cancel **Claim 12**.

**Claim 13** (currently amended) ~~Process according to~~ The process of claim 1, ~~characterized in that~~ wherein the starting amino-alcohol corresponds to formula ~~(IV)~~:



( IV )

in which:

-n is ~~an integer selected from the numbers~~ 1, 2~~,~~ or 3 and m is ~~an integer selected from the numbers~~ 1, 2~~,~~ or 3,

-X is ~~selected from the group composed of~~ hydrogen ~~and a~~ or C1 to C4 carbon chain, optionally hydroxylated on the positions 2' and/or followings of the amino group;

-$R^1$ is ~~selected from the group composed of~~ hydrogen ~~and a C1 to C4 carbon chain, preferably saturated, linear, optionally branched and/or hydroxylated~~ or alkyl of 1 to 4 carbon atoms optionally hydroxylated,

-$R^2$ is selected from the group ~~composed~~ consisting of hydrogen, -OH, -$NH_2$ and ~~a C1 to C4 carbon chain~~ alkyl of 1 to 4 carbon atoms, ~~preferably saturated, linear,~~ optionally ~~branched and/or~~ hydroxylated,

-$R^3$ is selected from the group ~~composed~~ consisting of hydrogen, -OH, -$CH_2OH$, ~~and~~ in which at least one of ~~the groups~~ $R^1$, $R^2$ and $R^3$ includes a –OH ~~group~~.

**Claim 14** (currently amended) ~~Process according to~~ The process of claim 1 ~~characterized in that~~ wherein the amide formation step is performed before the esterification step.